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Reply to
Attn. of: HW-104

AUG 20 1992

MEMORANDUM

SUBJECT: Yakima Agricultural Research Laboratory, Equivalency Demonstration of Clean Closure in Compliance with OSWER Policy Directive 9476.00-18

FROM: Betty Wiese, Chief
RCRA Compliance Section

TO: File

Background

The Yakima Agricultural Research Laboratory (YARL) operated as a pesticide and herbicide testing laboratory. Sinks in the laboratory discharged to a septic system which subsequently discharged to the soil. Soils at YARL were contaminated with endosulfan, dieldrin, heptachlor, chloroform, and tetrachloroethylene. The upper two feet of surface soil adjacent to the septic system at YARL was excavated and removed from the site.

YARL installed groundwater monitoring wells to ascertain the level and extent of groundwater contamination. Both YARL and EPA collected samples from these wells

Unit Description

The pesticide laboratory at YARL is located in the northwest quadrant of the site. The septic tank and drain field were located approximately 45 feet south-southeast of the pesticide laboratory. The washdown pad was approximately 14' x 14'. The tank pit was approximately 6' x 11' x 8.5'. The septic drain field is approximately 25' x 65'. Wastes discharged to the septic field included dieldrin, DDE, DDT, endosulfan, heptachlor, lindane, parathion, chloroform, and tetrachloroethylene. The latter two constituents are "F-listed" solvents.

The septic system did not have secondary containment or a leachate collection system. Consequently, soils in the drain field became contaminated with pesticides, herbicides, and chlorinated solvents.

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YARL addressed the contamination in two stages. Seven ground water monitoring wells were installed around the unit to ascertain the extent and degree of groundwater contamination. Following installation of these wells, the sources of the groundwater contamination, specifically the washdown pad, the septic tank, and contaminated soil, were removed from the site.

Analyses of samples collected from these monitoring wells over the past two years indicate that the level of groundwater contamination is below regulatory thresholds. The levels of residual contaminants in the groundwater are all below the Maximum Contaminant Levels (MCL) codified in the Model Toxic Controls Act Cleanup Regulation, WAC 173-340-720(2) and in *40 CFR § 141.11* and *40 CFR § 141.12*. Analyses of soil samples collected at the site following removal of the contaminated soil demonstrate that residual contamination is below the media protection standards promulgated in the "Corrective Action for Solid Waste Management Units at Hazardous Waste Management Facilities, Proposed Rule," (Subpart S Rule), *55 FR 30798*.

Closure Activities

YARL implemented its approved closure plan. To address soil and groundwater contamination at YARL, the sources of contamination were removed in 1990 and 1991. These removal activities included excavating the upper two feet of soil below the septic drain field, as well as removal of the septic tank and the washdown pad. Over forty cubic yards of contaminated soil was removed from YARL. The contaminated soil was transported to a permitted treatment, storage, and disposal facility.

Demonstration of Compliance with Clean Closure Levels

Groundwater and soil samples were collected during 1990 - 1991. Additional soil samples were collected in July, 1992. Water samples were analyzed for volatile organic compounds and pesticides using EPA methods 8010 and 8080, respectively. Samples were also analyzed for metals using EPA method 6010.

All laboratory analyses for groundwater samples have been checked for QA/QC by EPA staff and contractors and have found to be acceptable. The QA/QC verification of approximately 50% of the laboratory analyses of the soil samples has been completed. To date, the analyses of the soil samples indicate that clean closure has been achieved. The laboratory analyses indicate that any residual contamination in the soil is below the 10^{-6} cancer risk for residential populations.

At least 75% of the sample analyses have been validated and the data demonstrate that soil and groundwater contamination is below minimum quantification levels (MQLs). In many cases the MQLs are 3-5 magnitudes below action levels. A small percentage of the data has not been subject to full scale CLP review.

This concurrence of demonstration of clean closure is based upon the adequacy and acceptability of the available soil sample analyses. If, upon completion of the QA/QC verification, the laboratory analyses indicate that clean closure has not been achieved, the RCRA Compliance Section will direct YARL to initiate the appropriate actions to address any residual contamination that is above the action levels provided in all relevant and applicable regulation.